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TREATMENT OF PERITONITIS BY ABDOMINAL SECTION.

SOME ILLUSTRATIVE CASES.

READ BEFORE THE KENTUCKY STATE MEDICAL SOCIETY, JULY 12, 1888.

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Formerly Professor of Anatomy in the Kentucky School of Medicine; Corresponding Member of the Obstetrical Society of Philadelphia, etc.

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THE TREATMENT OF PERITONITIS BY ABDOMINAL SECTION.

The subject of this paper will be best presented by relating in detail some illustrative cases:—

On September 14, 1887, I saw, in consultation with my friend, Dr. D. C. Tucker, of Danville, a lady from Spencer county, Ky., with the following history: Mrs. A., aged 60 years, mother of six children, a woman of vigorous constitution, active habits, and uniformly good health until the beginning of present illness during the past year. Five months before she observed an enlargement of the abdomen, which gradually increased, growing quite rapidly of late. The history, the *facies*, the symptoms, the physical signs, were all those of ovarian tumor. The uterus was retroverted, but otherwise normal. The abdominal tumor could be distinctly outlined, and fluctuation was unquestionable. Dr. Dunlap saw the case with Dr. Tucker and myself, and joined us in a thorough examination. We concurred in the diagnosis of ovarian tumor, and so announced the result

of our examination, with the reservation, however, that the exact nature of intra-abdominal disease could not be positively determined without exploratory incision. Fortunately the husband of this lady is a physician, and he fully appreciated the difficulties surrounding positive diagnosis in such cases. On September 29, 1887, Drs. Tucker, Dunlap, and George Cowan, of Danville, and Dr. Schoolfield, of Covington, being present, I opened the abdomen, when the case was demonstrated to be one of encysted dropsy, the result of tubercular peritonitis. The peritoneum was thickened and injected, and its entire surface, both parietal and visceral, studded with myriads of tubercles, varying from the size of a millet-seed to that of a buck-shot. The viscera were matted together by universal adhesions. Separating these with my fingers I worked my way into an encysted accumulation of serous fluid. Two large accumulations, confined by adhesions as in a cyst, were evacuated in this way. The uterus and adnexa were quite normal in size and structure, but were welded together in an inseparable mass of adhesions. After separating adhesions, irrigating the peritoneum, and cleansing it as thoroughly as possible, the wound was closed.

The patient made an uninterrupted recovery. No preparation of opium or other anodyne was indicated after the operation, and none was administered; the catheter was not

required, and was not used; the highest temperature noted was 99° F., and the pulse, which, for some time prior to the operation, ranged from 115 to 130, fell below 100 by the third day after the operation, and remained there. On the fourth day of convalescence her appetite was keen and she took food with relish; for weeks before she had suffered with nausea and vomiting. On the seventh day the sutures were removed from a dry and firmly united wound, and on the tenth day she sat up in the rocking-chair. At the end of three weeks she returned to her home in Spencer county. Her good health since and present satisfactory condition are attested by the following note from her daughter, received a few days since: —

DEAR DR. MCMURTRY: — In reply to your inquiry in regard to my mother, upon whom you operated almost a year ago, I am glad to say that there has been no return of the disease. She began to improve at once after the operation, and, though past sixty years of age, she is active in her habit, rides about the neighborhood, and has no symptoms of her former trouble.

Very respectfully,

EMMA T. SCHOOLFIELD.

JULY 9, 1888.

If this case were an isolated and exceptional one, it would

be worthy of record only as a clinical curiosity; but in the progress of abdominal surgery, laparotomy has come to be applied as a deliberate and promising method of treatment in cases of tubercular peritonitis. Of many cases now on record I will only allude in detail to one or two. The case of Sir Spencer Wells has become an historic one. In his work on "Diseases of the Ovaries," which was published in 1865, Mr. Wells records a case of tubercular peritonitis, in which recovery followed an exploratory laparotomy, removal of effusion, and cleansing the peritoneum. Reverting to this case in his book issued in 1885, he says: "That patient is still quite well, twenty-three (23) years after the operation, although the whole of the peritoneum was seen to be studded with myriads of tubercles, and the colon and omentum with coils of small intestine were bound down and nodulated by tubercle."[1]

Another case worthy of special mention is reported by Dr. Ely Van de Warker, of Syracuse, New York, in the course of an instructive article on the subject in the "American Journal of Obstetrics" for September, 1887. Describing the pathological condition disclosed by the operation, Dr. Van de Warker says: "The peritoneum was rolled out and

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[1] The Diagnosis and Surgical Treatment of Abdominal Tumors, page 210.

found to be studded with a great number of tubercles, from the size of a millet-seed to that of a buck-shot, — some of them white, others yellow. The intestines were everywhere beset with them. The transverse colon, thickened and covered with tubercles, was adherent to the peritoneum from side to side, thus enclosing the cavity and giving to the fluid the appearance of being confined within the walls of a cyst." The operation was done on June 11, 1886, and writing of the case in June, 1887, one year afterward, he says: "Before the sutures were removed there was a great change in her appearance, her demand for food greatly increased, and color returned to her cheeks. In three weeks she gained about ten pounds of flesh. She went on gaining, and in three months was a strong, robust woman, and at this time (June, 1887) remains so." I will add that in this case, too, a conditional diagnosis of ovarian cyst was made. Mr. Greig Smith makes this unqualified statement, viz.: "In many cases *encysted dropsy of the peritoneum* cannot be diagnosed from ovarian cyst." [1]

At the Congress of German Surgeons last autumn, Kummel, of Hamburg, reported thirty cases of tubercular peritonitis treated by abdominal section, and other members

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[1] Abdominal Surgery, by J. Greig Smith, second edition, page 107.

present in discussing the report added six more cases, making thirty-six cases with thirty recoveries. In some of these cases the peritoneum was treated with tincture of iodine in hot water; some by a solution of bichloride of mercury, 1 to 5000; and others by dusting iodoform over the peritoneal surface. It seemed to be a matter of indifference how the peritoneum was treated so it was opened, evacuated, and cleansed. A number of cases are reported by American and British surgeons. Greig Smith, commenting upon the cure of tubercular peritonitis by abdominal section, says: "It must be conceded that this is an exceedingly surprising fact. . . . It may be, and has been, said of these results, that the disease in these cases was probably not tubercular at all; but more than one case has shown not only the true structure of miliary tubercle, but the tubercle bacillus itself was present." No explanation yet made of the results obtained in these cases is satisfactory.

I have recently done an exploratory operation in the case of a young woman which turned out to be a case of tubercular peritonitis. The patient was 26 years of age, in the care of Dr. R. W. Keene and Dr. J. D. Neet, of Versailles, Ky. The disease was quite acute, accompanied by high temperature alternating with sub-normal temperature. She suffered severely with abdominal pain, requiring constant

exhibition of opium. She was cachectic and emaciated, and suffered with nausea, vomiting, and diarrhœa. On Thursday, June 14th, of the present summer, I made an exploratory abdominal section, and found the entire peritoneum filled with tubercles, and in an active state of inflammation. The intestines were matted together and covered with lymph. I irrigated the peritoneum as thoroughly as I could and put in a drainage-tube, which remained eight days. The patient was relieved of pain, nausea, and vomiting, and has been enabled to discard the use of opium altogether after the operation. Writing under date of July 7th, Dr. Keene informs me that she continues to improve, is bright and cheerful, and eating well, though she still has a slight elevation of temperature. The cachexia was so advanced in this case that we could not reasonably have expected more than a temporary arrest of the disease, yet the benefits derived from abdominal section, irrigation, and drainage are positive. The establishment of the diagnosis beyond question, and intelligent treatment based thereon, together with relief of pain and freedom from opium, with improved nutrition, are advantages of incalculable value, and give hope and comfort to a desperate, painful, and hopeless illness.

To show the supreme value of abdominal section and drainage in an altogether different character of peritoneal in-

flammation, I beg to report another case, which illustrates more than one important practical point in pelvic surgery :—

Mrs. J. M. B., aged 40 years, a very corpulent woman, has never borne a child to full term. Nineteen years ago she had a miscarriage, and had never been well from the time of that event. Previous to that time she enjoyed perfect health. I first saw this lady three years ago in consultation with Dr. J. F. Purdom, of Mitchellsburg, Ky., when, with Dr. William Polk, of Perryville, we made a pelvic examination. Though fleshy and apparently hearty, she was the most nervous of all the nervous women I have ever seen. Her complaints were all directed to the pelvis and abdomen. She suffered with menorrhagia at times, with dysmenorrhœa at other periods, and pain always. An examination evidenced a displaced and immovable uterus and tender ovaries. The hot vaginal douche, local applications of iodine, and the glycerine tampon were used, without material permanent improvement. She removed to another part of the State soon after I first saw her, and remained for two years. She was all this time an invalid. The symptoms all the time pointed to disease of the ovaries, and general sub-acute pelvic inflammation.

During the summer of 1887 she consulted me again, and, after thorough examination, I advised removal of the

uterine appendages. The profuse menorrhagia, with the severe abdominal pain, pointed unerringly to disease of these organs. She scarcely recovered from one menstruation sufficiently to be up a few days, when all the pain and nervous disturbance of another period would supervene. Ovulation was the focal point of all her troubles. Opium was a necessity during these quickly recurring periods. She declined the operation, and I did not see her again until called to her on the evening of Nov. 12, 1887. At this time she was very ill indeed. The belly was tender and tympanitic; the pulse was quick and the features pinched, and she was vomiting almost constantly. The application of antiphlogistic measures accomplished nothing, and on the 15th of November Drs. Purdom and Bogle (who had previously attended her) met me in consultation, and acceded to my proposal to open the abdomen and remove the uterine appendages. On the 17th the operation was performed, Drs. D. C. Tucker, Fayette Dunlap, J. F. Purdom, and J. C. Bogle being present. The abdominal walls were rendered very thick by the large deposit of adipose tissue. On opening the abdomen the evidences and results of long-continued peritonitis were conspicuous. The ovaries were cirrhotic, and with the tubes were buried in a mass of firm, old adhesions. To dig them out with my fingers from the floor of a

large, deep pelvis, through an incision in the thick abdominal wall, was difficult and tedious. Separating the adhesions of the pelvic viscera in order to thoroughly explore and cleanse the pelvic cavity, a large blood-clot was found to occupy the retro-uterine space. This clot was black, soft, and offensive, and it was evident that the acute septic peritonitis, which had supervened, was caused by the hæmatocele. The clot was removed and the peritoneum washed out with hot water. Before closing the abdomen I considered the necessity of putting in a drainage-tube. On account of the great depth of the abdomen, and the thorough cleansing made, it was decided to leave the lowest suture untied, so that a tube could be inserted if necessary. In the light of future events this proved to be an error.

The patient reacted promptly from the operation, and went into an easy convalescence. The pulse, which was 130 for several days prior to the operation, fell beneath 100 by the fourth day, and the temperature remained below 100°. The stitches were removed on the seventh day, and all her symptoms were favorable. Her greatest improvement was in her nervous symptoms, which were severe and beyond the control of the will prior to the operation. At the end of the second week of convalescence she began to do badly. Abdominal pain and tenderness reappeared; the temperature

began to ascend, reaching, on December 6, 104° F., with tympanites, vomiting, quick, small pulse at 136, forming an array of symptoms described by a recent writer as "the furies of abdominal surgery."

On the following day, December 7, wanting one day of three weeks from the first operation, I again placed the patient on the table, and reopened the abdomen by an incision through the cicatrix. Drs. Tucker and Purdom were present. I separated the adhesions in every direction, irrigated the peritoneum with hot water, and put in a long glass drainage-tube, the end resting in Douglas' space. The drainage was free, the discharge consisting of bloody serum.[1] On the tenth day I removed the glass tube, replacing it with a rubber one. The tube remained in the abdomen just twenty-eight days.

For two weeks after this operation I administered a Seidlitz powder daily, which, by keeping a current going out by the *primæ viæ*, did much to supplement the drainage of the peritoneum. My patient made a complete recovery, and is now quite restored to good health. I desire to call attention particularly to the fact that her pelvic troubles dated from

[1] This case furnished me my first opportunity to test the efficiency of Dr. Joseph Price's method of using a cotton rope in the tube, which, by capillarity, greatly facilitates drainage.

the miscarriage which occurred soon after her marriage, nineteen years ago; that she was an invalid from that time, and has never conceived since. This is due, I believe, to infection of the peritoneum through the tubes at that time, and pathological changes in the ovaries and tubes. It is to be noted also that her nervous troubles, consisting of hysterical convulsions and other phenomena, were arrested by removal of the ovaries and tubes. Above all, this case teaches the lesson that purulent peritonitis has but one treatment, viz., abdominal section, irrigation, and drainage; and that decisive and persevering action alone will succeed in severe cases. The indications for operation in these cases are exactly those of an abscess in other parts, only adding that delay is fatal. If we wish to succeed we must operate early. The results from abdominal section and drainage in purulent peritonitis have been so gratifying, that we have reason to believe that if done early those terrible cases of puerperal peritonitis which so often occur in primiparæ may be rescued, instead of being consigned to opium euthanasia. To open the abdomen and insert a tube carries but little risk, and the early cleansing of the peritoneum of septic material is the only resource worthy of confidence in such cases.

In the second edition of his treatise on "Abdominal Surgery," Mr. Greig Smith suggests that we should aim to

maintain a moist state of the peritoneum after abdominal section in cases of suppurative peritonitis. Since perfect drainage is impossible as soon as the coils of intestine become adherent, Mr. Smith believes that the intestines should be kept floating for a few days in a warm antiseptic fluid. He uses for this purpose a warm boro-glyceride solution, of the strength of an ounce of material to a pint of hot water. This fluid has some of the hygroscopic qualities of glycerine, and therefore is particularly adapted to treating the inflamed surface by depletion and drainage. The fluid should be about 102° F., and should be slowly forced into the abdomen through the tube three or four times each day, and retained several hours by closing the end of the tube.

The same principle has been applied with equal, if not greater, efficiency by Dr. Charles B. Penrose, of Philadelphia. In an admirable paper entitled "Intestinal Obstruction in its Surgical Aspects," read before the Surgical Section of the American Medical Association at its recent meeting at Cincinnati, Dr. Penrose describes the method of continual irrigation of the peritoneum which he has adopted. He uses two or more drainage-tubes, or one reflex tube. In a case of intestinal obstruction and purulent peritonitis he placed two glass tubes in the pelvis, and had a large rubber tube from the epigastrium to the lower angle of the abdominal

incision. For twenty-four hours after the operation the abdomen was flushed every two hours with warm distilled water. There were two large pus pockets in the pelvis; the sigmoid flexure was gangrenous, with a fistulous opening, and twelve inches of the ileum was in such a state that resection seemed indicated, but was not done for fear the patient would die on the table. Dr. Penrose attributes the patient's recovery in this instance to the continual irrigation of the peritoneum. The suggestion is a valuable one, and I doubt not that continual irrigation will materially improve the results of abdominal section in suppurative peritonitis.